

# CONSTANT IMPEDANCE IN CMOS INPUT AND OUTPUT GAIN STAGES FOR A WIRELESS TRANSCEIVER

## ABSTRACT OF THE DISCLOSURE

An apparatus to provide a stage in a transmitter or receiver operating in wireless frequency ranges performing a gain control function between a final or an initial stage respectively and process circuitry for adjusting gain and providing a constant input impedance at its input and a constant output impedance at its output, providing a direct conversion transceiver in which constant impedance gain control circuits are provided in the receive and transmit paths, all of which are simple in construction and efficient in operation.